

GENERIC CATALOGUE AND TAXONOMIC STATUS OF LANGURIIDAE (CUCUJOIDEA)

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Abstract. — The classification of the Languriidae is reviewed and a catalogue of the 98 described genera is provided. Salient adult characters and comments on the monophyly are discussed for each family group. Notes on the taxonomic status of genera are included and type species are designated for *Glysonotha* Motschulsky (*Glysonotha setosa* Motschulsky), *Lacertobelus* Gorham (*Lacertobelus dentipes* Gorham), *Leptolanguria* Fowler (*Languria longicollis* Fowler), *Loberolus* Grouvelle (*Loberolus agilis* Grouvelle), *Ortholanguroides* Fowler (*Ortholanguroides egensis* Fowler), and *Philophlaeus* Germain (*Philophlaeus aeneus* Germain). Two generic names proposed are *Slipinskiella*, new name (type species: *Languria dimidiata* Guérin-Méneville; fifty new combinations) and *Crowsonguptus*, new name (type species: *Coelocryptus mexicanus* Sharp; four new combinations). One specific name is proposed: *Hapalips investigatus* new name (for *Hapalips fuscus* (Lea) new combination, nec *Hapalips fuscus* Reitter). New generic synonymies are given as follows: *Cathartocryptus* Sharp (= *Xenoscelinus* Grouvelle; seven new combinations), *Isolanguria* Lea (= *Hapalips* Reitter; one new combination) and *Tetraphala* Sturm (= *Tetralanguria* Crotch, = *Tetralanguroides* Fowler, = *Metabelus* Gorham; twenty three new combinations). The genera *Stenodina* Fairmaire and *Fitoa* Dajoz are transferred from Endomychidae to Languriidae. The species name *Pachylanguria paivae* Wollaston is corrected to *Pachylanguria paivai*.



Key words. — Coleoptera, Cucujoidea, Languriidae, catalogue of genera, taxonomy, classification.

INTRODUCTION

The family Languriidae currently contains five subfamilies (Pakaluk *et al.* 1994; Lawrence and Newton 1995). The familiar large-bodied (about 7–20 mm) phytophagous species, commonly known as Lizard Beetles, are included in the subfamily Languriinae while the many smaller species, which have a diversity of habits, are contained within the other four subfamilies. Most of the smaller species were at one time included in the family Cryptophagidae (Schenkling 1923). The classification of Languriidae was comprehensively covered by Sen Gupta and Crowson (1971) and most of their work focused on smaller "microlanguriids". Although their studies are of profound importance to understanding Languriidae systematics, unfortunately they do not cover all of the key taxa. Despite previous attempts at defining the limits of higher languriid taxa, intrafamilial relationships among the Languriidae are obscure and do not support clearly-defined higher taxa. Therefore, the only way to resolve the current problems in languriid taxonomy would be to completely reanalyze the phylogenetic relationships

of the family which would, in turn, define monophyletic lineages and provide a natural classification for the family. Here we review the current family classification and provide a generic catalogue.

CLASSIFICATION

Any historical treatment of languriid taxonomy must include a discussion of other cucujoid families, especially the Erotylidae and Cryptophagidae. The families Languriidae and Erotylidae have been considered either as a single family Erotylidae (e.g., Crotch 1876; Gorham 1887a, b; Fowler 1908) or as separate families (e.g., Arrow 1925; Crowson 1952; Boyle 1956; Schenkling 1928; Sen Gupta and Crowson 1971). Based on a variety of characters (e.g., adult procoxae externally closed by lateral flanges of the prosternal process, larval mala blunt) the family Erotylidae is probably monophyletic but may be phylogenetically contained within the family Languriidae (see below) suggesting that these families should be united to avoid recognizing a paraphyletic taxon. Erotylidae did at one time include members of the Languriidae, and some

authors (e.g., Rymer Roberts 1939, 1958; Lawrence 1991) have questioned the separation of these families which was initially proposed by Crotch (1873a) and is followed currently. Their shared monophyly is supported by a combination of adult characters (head with glandular ducts, gular sutures absent, mesocoxal cavities laterally closed, and medial fleck of the hind wing primitively absent). Therefore, they should probably be considered as a single family (the family name Erotylidae has nomenclatural priority over Languriidae), but any decision must await a comprehensive phylogenetic study of the superfamily Cucuoidea.

Family Classifications

The taxonomic history of the Languriidae is confusing because many of the currently recognized genera were at one time either included in the Cryptophagidae or the Erotylidae (Lawrence and Newton 1982; Sen Gupta and Crowson 1971; Leschen 1996). Some earlier classifications were so broadly-defined that they included languriids with cryptophagids and sometimes biphyllicids in the Erotylidae (Ganglbauer 1899; Handlirsch 1925; Falcoz 1922) or with the Cryptophagidae (Gemminger and Harold 1868). Prior to the current familial concept of Languriidae recognized by Sen Gupta and Crowson (1971), most of the smaller species now included in the subfamilies Cryptophilinae, Setariolinae, Toraminae, and Xenoscelinae were excluded from the Languriidae.

The genus *Languria* was originally included in the family Erotylene in the subdivision Tetramera by Latreille (1804) based on tarsal formula (Latreille [1825] later placed *Languria* in the family Clavipalpes). The inclusion of *Languria* and its relatives as a subfamily or tribe in Erotylidae was followed by many 19th century authors (Chapuis 1876; LeConte 1854; Crotch 1873a, 1876; Gorham 1887a, b) and some 20th century authors (Fowler 1912; Sharp and Muir 1912; Rymer Roberts 1939, 1958).

Although Languriidae was first ranked as a family by Hope (1840; the name he used, Languiridae, is based on a misspelling of the type genus), it was Lewis (1884) who gave reasons for the separation of the family from the Erotylidae. He believed that the phytophagous habits of larval and adult *Languria*, which had been described by Comstock (1879) and observed by him in Asian species, showed that the Languriidae were more closely related to the Chrysomelidae (Phytophaga) than to the mycophagous Erotylidae. This view was initially supported by Fowler (1886a) but later rejected (Fowler 1908, 1912), due, in part, to Gorham's (1887b) discussion. Gorham (1887b) countered the recognition of the Languriidae as a family and argued that the tarsi of the Languriidae and Erotylidae differed from those in Phytophaga with respect to the relative size of the tarsomeres. He argued that the small tarsomere IV, which is present in the Languriidae and Erotylidae (as

well as the Endomychidae), was evidence for a single family, Erotylidae. This tarsal character was used by Arrow (1929a) to separate members of the Languriidae and Erotylidae from the Cryptophagidae. Gorham (1887b) also pointed out that character of the indistinct separation of the metepimeron and metepisternum, which according to Chapuis (1876) excluded *Languria* from the Erotylidae, was unsupported. An additional character that supported Gorham's view was the development of a basal sulcus on the pronotum of the Languriidae, Erotylidae and Endomychidae. However, Gorham's (1887b) combined Erotylidae was either ignored or the two-family system was adopted without strong evidence for or against paraphyly. In either case the family Languriidae was recognized as a separate taxonomic entity by numerous workers and their treatment is followed today: Casey (1900), Kolbe (1897, 1901), Blatchley (1910), Arrow (1925, 1929a), Forbes (1926), Schenckling (1928), Böving and Craighead (1931), Peyerimhoff (1933), Arnett (1968), Crowson (1952, 1955), Sen Gupta (1969), Sen Gupta and Crowson (1971), Lawrence (1982, 1991), Lawrence and Newton (1982, 1995), Lawrence and Vaurie (1983), and Pakaluk *et al.* (1994). Cueujoid taxonomy remained in state of flux during the late 1800's and early 1900's. Gorham (1896) eventually adopted a two-family system but other workers, such as Reitter (1875a, b, 1887, 1911) periodically changed their familial concepts (especially the Cryptophagidae and Biphyllicidae) which usually reflected different taxonomic ranks and familial combinations.

Limited character systems, especially those based on tarsal characters, excluded the smaller species from being considered as languriids and these were placed in the Cryptophagidae by several authors, often in the previously recognized subfamily (or tribe) Telmatophilinae (Sharp 1900; Arrow 1925; Falcoz 1929; Schenckling 1923; Arnett 1968; Lohse 1967). The type genus *Telmatophilus* is a member of the Cryptophagidae (Bruce 1951; Leschen 1996) which was originally included in Jacqueline du Val's (1859) classification as Telmatophilides. Although Arrow (1925) separated the Cryptophagidae (including Telmatophilinae) from the Languriidae based on the presence of stridulatory files, in the later he (Arrow 1929a) dismissed the utility of this character and found it to be present in members of the Telmatophilinae. Again referring to tarsal characters, the minute fourth tarsomere was used by Arrow (1929a) to remove the telmatophilines from the Cryptophagidae placing them in the Languriidae. Crowson (1952, 1955) supported Arrow's classification and added *Setariola* to the Languriidae, but regarded *Cryptophilus* as a member of the Erotylidae. *Cryptophilus* was later included in the Languriidae by Sen Gupta and Crowson (1971). The Arrow-Crowson classification was followed by Sen Gupta and Crowson in several papers appearing in the 1960's.

Characters that are used to distinguish the Languriidae from the Cryptophagidae are as follows: elytral epipleura well-developed and extending to apex (poorly-developed in *Loberonotha*), hind wing with a closed anal cell, tarsomeres 5-5-5 in both sexes (many Cryptophagidae in the subfamily Cryptophaginae have 5-5-4 male tarsomeres), scutellary striole present (absent in the Toraminae and Cryptophilinae), and well-developed stridulatory files on the head (weakly developed in some atomariine cryptophagids).

While most works relied upon adult characters to define the families, Rymer Roberts (1939) provided the first refutation of a separate Languriidae based on larval characters. His view is based on the "intermediate position" of some members of the erotylid subfamily Daeninae between Languriidae and Erotylidae and characters of the mouthparts. According to Rymer Roberts (1939), *Dacne* (Erotylidae) has a well developed crushing mola and a "flattened process" or prostheca and well-developed epipharyngeal ridges which are absent in the remaining erotylids but present in the Languriidae (Languriinae). An adult character used to support the intermediate position of Daeninae is the presence of an acuminate maxillary palp, whereas most other erotylids have a securiform or triangular maxillary palp. However, the form of the mala in Daeninae shows that its members are allied to the erotylid Tritominae (= Triplacinae). Because of the blending of characters observed by Rymer Roberts (1939) he suggested a reversion to Ganglbauer's (1899) earlier classification of a broadly-defined Erotylidae. In a study published posthumously, Rymer Roberts (1958) noted that a free labium and presence of setae on the inner and dorsomedial positions of the mala, which are present in the Daeninae, are also present in the Languriidae but absent in the Tritominae and Erotylinae.

Subfamily Classifications

The current subfamily classification, the one used here, is that developed by Sen Gupta and Crowson (1971 and previous papers). However, as their classification was constructed prior to the advent of cladistics many of the diagnostic characters listed by them may be plesiomorphies and the taxonomic groups may reflect morphological grades or phenetic groupings. A classification based strictly on monophyletic definitions of higher taxa should be developed but this is not the purpose of the paper. Here we briefly review the subfamily groupings and discuss a few of the problematic taxa. Taxonomic problems remain within many of the larger genera (e.g., *Hapalips*, *Loberus*, many languriines and *Toramus*) and need investigation. Immatures were covered by Lawrence (1991) and we have listed references for described larval languriids.

Languriinae (Lizard Beetles etc.). This subfamily is characterized by an asymmetrical antennal club in the

adult and phytophagous larvae (Crowson 1952). Arrow (1925) divided the Languriinae (ranked as a family) into two tribes the Languriini (51 genera) and Cladoxenini (4 genera). He separated the Cladoxenini from Languriini based on the following characters: club of antenna symmetrical and 3-segmented, antennomeres loosely articulate, and a generally broad body form. Villiers (1961) accepted this classification and as further evidence for the separation of the two tribes added several mouthpart characters for recognizing the Languriini (e.g., mola poorly-developed, galea short and brushy, and ligula well-developed with strong lobes). Although separating the two tribes is difficult (Crowson 1955; Sen Gupta and Crowson 1971), the preceding characters were included in a taxonomic key provided by Sen Gupta (1968b). Sen Gupta (1968b) erected the tribe Thallisellini for *Thallisella* and *Platoberus* which are separated from the Cladoxenini by strongly lobed tarsomeres 1-3, two apical spines present on the lacinia, apex of galea pointed, mentum long, and tibial spurs absent, and apex of the gonocoxite blunt. Division of the Languriinae into two major groups based on tarsal morphology was attempted by Gorham (1887b) and later expanded into four groups by Villiers (1943). Larval languriines were described by Böving and Craighead (1931), Peterson (1951), and Rymer Roberts (1958).

Xenoscelinae. This subfamily was recognized initially by Ganglbauer (1899) for the genus *Xenoscelis* and later enlarged to include several more genera by Sen Gupta (1968a, as Loberinae) and is certainly the most heterogeneous subfamily of the Languriidae (Zablotny and Leschen 1996). There are no clear synapomorphies for the monophly of the group and most of the genera were included in the Cryptophagidae (Telmatocephilinae). There are at present three tribes in the Xenoscelinae: Loberonothini (1 genus), Pharaxonothini (13 genera), and Xenoscelini (10 genera). Crowson (1952) described the tribe Pharaxonothini to include *Phararonotha* and *Xenocryptus* (*Cneecosa* was originally included in this tribe but was subsequently removed and placed in the Erotylidae by Lawrence, 1988) and Sen Gupta and Crowson (1967, 1969, 1971) added several genera. Several characters are listed in these studies (see also Sen Gupta 1968a) but only one character seems consistent for the tribe Pharaxonothini; that is, the absence of subcoxal lines on ventrite 1. Another character that supports this grouping is the presence of an internal monocondylic articulation between the meso- and metasternal process. Members of the Xenoscelini have subcoxal lines on ventrite 1 while the monotypic tribe Loberonothini described by Sen Gupta and Crowson (1969) lacks this character and differs from all of these by a reduced elytral epipleuron and elytral striae absent (note that the form of the transverse groove on the gula described for *Loberonotha* occurs in various other

Xenoscelinae and members of other subfamilies). Although the majority of described genera can be easily identified, the major systematic problems include the monophyly of genera and tribes. The unusual genus *Hoplepiscapha* Lea (1922) was originally described as a member of the Erotylidae and was later transferred to the Xenoscelinae (Pharaxonothini) by Sen Gupta and Crowson (1971) based on externally open procoxal cavities and a monocondyllic articulation between the meso- and metasternal process. Lawrence (1988) countered this argument by noting that the procoxal cavities are externally closed and the meso-metasternal fitting is "weakly" dicondyllic, supporting its placement in the Erotylidae.

Loberopsyllus is a genus containing four species that are either free-living or are found on the bodies of rodents (see below). Leschen and Ashe (1998) discuss several characters that associate *Loberopsyllus* with members of the Cryptophilinae, although it is currently placed in the Pharaxonothini in this study.

The widespread genus *Loberus* is very variable and has a number of identifiable morphological forms that could be named as subgenera. Moreover, the genera *Fitoa*, *Paphezia* and *Stenodina* are three genera that are very similar to some members of *Loberus*, suggesting that these may eventually be synonymized, or placed in subgenera within *Loberus*. A comprehensive review of the genus is necessary before major taxonomic decisions are made.

Larval xenoscelines have been described by Böving and Craighead (1931), Lundberg (1973), Rymer Roberts (1958), Lawrence (1991), Sen Gupta (1968b), and Sen Gupta and Crowson (1969).

Setariolinae. This monotypic subfamily was previously either included in the Cryptophagidae or the Erotylidae (Casey 1900; Schencking 1928; Falcoz 1922; Falcoz 1929). Crowson (1952) recognized this genus as a separate subfamily based on the strongly-deflexed head, apical palpomeres somewhat securiform, elytral striae absent, and the body form ciid-like. Note that Setariini Casey (1900) originally included *Setariola* (= *Setaria*), *Leucohimatium*, and *Macrophagus* (= *Haplolophus*) and was based on a preoccupied name (Pakaluk *et al.* 1994). *Setariola serica* appears superficially similar in appearance to species of *Cryptophilus* (Lawrence 1991) and the larva of *Setariola* is unknown.

Toraminae. This subfamily was described by Sen Gupta (1967) to include some of the genera that were originally included in the Cryptophagidae. While many characters are shared with the Cryptophilinae (see below), two salient characters for recognizing toramines as a distinct group are the externally open procoxal cavities and the presence of an internal dicondyllic articulation between the meso- and metasternal process. Other characters diagnostic for this group and the Cryptophilinae vary (see Leschen

1997). Leschen (1997) defined a monophyletic lineage that he informally named the *Empocryptus* group consisting of *Empocryptus*, *Lepidotoramus*, and *Lobosternum*. We include eight genera in this subfamily. Larval Toraminae were included in the study by Lawrence (1991).

Cryptophilinae. *Cryptophilus* was originally included in the Cryptophagidae by Reitter (1874) and the tribe was first recognized by Casey (1900). This genus has also been placed in the broadly-defined Erotylidae discussed above or in the Biphyllidae (Ganglbauer 1899; Arrow 1929a; Schenckling 1934). Other authors included *Cryptophilus* in or allied to the Languriidae Ganglbauer (1899) included *Cryptophilus* in the Biphyllidae based on procoxal closure and the presence of the subcoxal lines on ventrite 1. Problems with the inclusion of *Cryptophilus* in the Erotylidae, Languriidae, and Biphyllidae are based mainly on the interpretation of the external closure of the procoxal cavities (see Arrow 1925, Crowson 1955, Sen Gupta and Crowson 1971). Procoxal cavities in the Languriidae may be completely open, partially open, or completely closed behind, while in the Erotylidae and Biphyllidae the cavities are completely closed behind, but in different ways. The external closure of the procoxal cavity in *Cryptophilus* differs from the erotylid condition and is similar to some other primitive eucujooids (including biphyllids) where the cavities are closed by inward expansions of the prothorax (notal processes). In contrast, the procoxal closure in the Erotylidae is due to lateral expansions of the prosternal process. Sen Gupta and Crowson (1971) added *Coelocryptus* and *Xenoscelinus* to the Cryptophilinae, placing the later genus in the monogeneric tribe Xenoscelinini. *Cathartocryptus* was placed in the Cryptophilinae without explanation by Klimaszewski and Watt (1997), and we formally synonymize *Xenoscelinus* with this genus in the catalogue (see note for *Cathartocryptus*). Zablotny and Leschen (1996) and Ljubarsky (1997) recently added two genera, placing them in the Cryptophilini. We tentatively place the genus *Cryptophagops* in this tribe.

This subfamily has been recognized as a separate family, Cryptophilidae, by other authors including Crowson (1981), but whether or not it will make other taxa paraphyletic (e.g., Toraminae) must be determined by cladistic analysis (see Leschen, 1997). The Cryptophilinae and Toraminae appear to be sister taxa based on the following characters: meso-metasternal junction with a double knob (C1), metacoxal process broad (C2), hind wing vein CuA₂+3+4+AA₁+2 contacting the medial fleck (C3), and lack of a scutellary striole on the elytron (C4). Most of these characters are unique within languriids and limited to Cryptophilinae and Toraminae with the exception of C1 which is present in many Erotylidae and C2 which is present in the recently described xenosceline genus *Paphezia*.

(Zablotny and Leschen 1996). Character C1 is variable in *Cryptophilus* and absent in *Cathartocryptus* while wing vein CuA₂+3+4+AA₁+2 is separate from the medial fleck (C3) in *Cryptophilus* and *Crowsonguptus*. Note that the key to Cryptophilinae in Zablotny and Leschen (1996) is incorrect because the antenna in *Cathartocryptus* is actually 3-segmented and appears 2-segmented in some species with a reduced terminal antennomere. The larva of *Cryptophilus* is included in the study by Lawrence (1991).

BIOLOGY

In addition to the intriguing systematic problems, the Languriidae is biologically interesting and rich in natural history (see review of biology in Lawrence 1991). Some species are considered incidental pests of stored grain (*Cryptophilus integer* [Heer], *Leucochimatium arundinaceum* [Forskål], *Pharaxonotha kirschii* Reitter; Hinton 1945, Aitken 1975 and Delobel and Tran 1993), tea (*Leucochimatiops javanus* Heller; Heller 1923), or herbaceous crops (*Anadastus parrulus* Wiedemann, *Languria mozardi* Latreille; Arrow 1925, Vaurie 1948). In contrast, some species may be regarded as beneficial in pollinating African and New World cycads (*Pharaxonotha* spp., Rymer Roberts 1939; Crowson 1981; Tang 1987; Pakaluk 1988). While members of the Erotylidae typically feed on large-bodied Basidiomycetes (Scheerpeltz and Höfler 1948; Benick 1952; Skelley *et al.* 1991), the diets of the Languriidae are very diverse and do not include species that feed exclusively on the tissues of macrofungi. Members of the Languriinae (Languriini), and some Xenoscelinae are strictly phytophagous while most of the remaining taxa (some Xenoscelinae, Cryptophilinae, Setariolinae, and Cladoxenini [Languriinae]) are either associated with decaying plant materials and are saprophagous or mycophagous (feeding on spores and hyphae of microfungi) or are pollen feeders (Falcoz 1922; Villiers 1943; Lawrence 1991; Zablotny and Leschen 1996; Leschen 1997). The Toraminae and Cryptophilinae have been collected from a variety of fungi (Peyerimhoff 1919; Lawrence 1991) and larvae of Neotropical species of *Toramus* and *Loberoschema* have been collected from members of the fungal family Xylariaceae (unpublished data).

The behaviour of some members of the Languriidae departs from the typical associations with plants or fungi. The rarely collected European xenosceline *Zavaljus brunneus* (Gyllenhal) is sometimes associated with wasp nests (Lundberg 1966), but is probably not a true inquiline. Some members of *Loberopsyllus* have been collected on the bodies and in the nests of Neotropical cricetine rodents (Martinez and Barrera 1966; Barrera 1969; Leschen and Ashe 1998) and are phoretic. *Lepidotoramus* and some languriines have been found in association with Lepidoptera cocoons or chrysalises (Leschen 1997). One

species of languriine (near the genus *Anadastus*) was observed to mimic a species of *Paederus* (Staphylinidae) in behaviour and morphology (Reid and Noerdjito 1994).

IDENTIFICATION OF LANGURIIDAE

Identification of the family groups is possible with the adult key provided by Lawrence and Britton (1991) and the larval key provided by Rymer Roberts (1939). An older key is also available in Crowson (1952, 1955). The adult key included in Sen Gupta and Crowson (1971) includes several mistakes in numbering of the couplets and the larval key was based partly on incorrect identifications of the Cryptophilinae (Lawrence 1991). Non-regional keys available for the Languriinae are Gorham (1887b), Fowler (1908) and Sen Gupta (1968b). Regional keys for the Languriinae are available for Asia (Arrow 1925; and Villiers 1945), Africa (Villiers 1961), Central and South America (Martins and Pereira 1966) and North America (Vaurie 1948). The genera of Toraminae and Cryptophilinae can be identified using the keys in Sen Gupta (1967), Leschen (1997) and Zablotny and Leschen (1996) and the Japanese fauna is covered by Sasaji (1990, 1992). Keys for the Xenoscelinae are included in Sen Gupta and Crowson (1967) and Sen Gupta (1968a). Keys to the eastern European and northern Asian fauna are provided by Ljubarsky (1994) and Krivolutskaya (1994).

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CATALOGUE OF THE GENERA

This catalogue includes 98 genera arranged alphabetically within subfamilies and tribes according to the current classification of the Languriidae. The number of species contained within each genus is given and at present the total for the family is 1051 species. The taxonomic changes are summarized and type species designated for the genera according to current rules of zoological nomenclature (International Code of Zoological Nomenclature 1985, see also review in Newton and Chandler 1989). Taxonomic problems are noted for some genera. New combinations resulting from synonymies and other changes are listed in the Appendix. A species catalog is currently in preparation by Węgrzynowicz and Leschen.

LANGURIIDAE Crotch

Languriides Crotch, 1873a: 349. Type genus: *Languria* Latreille, 1802.

LANGURIINAE Crotch

Languriini Crotch

ACROPTEROXYS Gorham, 1887a: 13.

Type species: *Acropteryx caudatus* Gorham, 1887a: 13 (original designation).

Distribution: North and Central America.

Number of species: 4.

Note: Gorham, 1887b: 362 unnecessarily designated *Languria gracilis* Newman, 1838: 390 as a new type species.

AMYDUVEA Zia, 1934: 140.

Type species: *Amyduvea micans* Zia, 1934: 141 (by monotypy).

Distribution: Asia.

Number of species: 1.

ANADASTUS Gorham, 1887b: 362.

Type species: *Languria cambodiae* Crotch, 1876: 388 (by monotypy).

Neolanguria Gorham, 1887b: 361. Type species: *Trogosita filiformis* Fabricius, 1801: 152 (by monotypy). First synonymized by Jakobson, 1915: 938.

Stenodastus Gorham 1887b: 362. Type species: *Languria melanosterna* Harold, 1879: 82 (by monotypy). First synonymized by Arrow, 1925: 207.

Perilanguria Fowler 1908: 19. Type species: *Languria monticola* Fowler, 1885: 387 (original designation). First synonymized by Arrow, 1929a: 4.

Distribution: Africa, Asia, Australia.

Number of species: 268.

ANISODEROMORPHA Arrow, 1925: 182.

Type species: *Anisoderomorpha tuberculata* Arrow, 1925: 183 (by monotypy).

Distribution: Asia.

Number of species: 1.

ANOMOLOLANGURIA Villiers, 1943: 84.

Type species: *Ischnolanguria crassicollis* Arrow, 1929a: 3 (by monotypy).

Distribution: Africa.

Number of species: 6.

APTERODASTUS Arrow, 1925: 244.

Type species: *Stenodastus metallescens* Gorham, 1903: 342 (original designation).

Distribution: Asia.

Number of species: 5.

BASULANGURIA Sengupta and Mukherjee, 1977: 1.

Type species: *Basulanguria lavanica* Sengupta and Mukherjee, 1977: 4 (by monotypy).

Distribution: Asia.

Number of species: 1.

BRASILANGURIA Martins and Pereira, 1966: 213.

Type species: *Goniolanguria flavipes* Fowler, 1886a: 317 (by monotypy).

Distribution: South America.

Number of species: 1.

CAENOLANGURIA Gorham, 1887b: 361.

Type species: *Languria coaretata* Crotch, 1876: 387 (by monotypy).

Coenolanguria Gorham. Misspelling by Gorham, 1901: 172.

Caenoelanguria Gorham. Misspelling by Villiers, 1948: 131.

Aerolanguria Kolbe, 1897: 116. Type species: *Acrolanguria aeneonigra* Kolbe, 1897: 117 (by monotypy).

First synonymized by Arrow 1929a: 14.

Gurilana Heller, 1918: 31. Type species: *Gurilana ascendens* Heller, 1918: 31 (by monotypy). First synonymized by Villiers, 1945: 250.

Distribution: Africa, Asia, Australia.

Number of species: 60.

CALLILANGURIA Crotch, 1876: 381.

Type species: *Callilanguria luzonica* Crotch, 1876: 381 (original designation).

Distribution: Asia.

Number of species: 12.

CAMPTOCARPUS Gorham, 1887a: 6.

Type species: *Trapezidera longicollis* Motschulsky, 1860: 244 (original designation).

Distribution: Central and South America.

Number of species: 2.

CELOLANGURIA Arrow, 1925: 184.

Type species: *Celolanguria curvipes* Arrow, 1925: 184 (by monotypy).

Distribution: Asia.

Number of species: 1.

CHROMAUGES Gorham, 1887b: 361.

Type species: *Languria refulgens* Fowler, 1886a: 314 (by monotypy).

Distribution: Asia.

Number of species: 1.

CLEROLANGURIA Villiers, 1943: 84.

Type species: *Clerus tricolor* Fabricius, 1787: 126 (by monotypy).

Clerotianguria Villiers. Misspelling by Villiers, 1945: 34.

Distribution: Africa.

Number of species: 6.

COMPSOLANGURIA Fowler, 1886a: 314.

Type species: *Compsolanguria concinna* Fowler, 1886a: 315 (= *Goniolanguria reichii* Crotch, 1876: 395) (by subsequent designation, Martins and Pereira, 1966: 247).

Distribution: South America.

Number of species: 2.

Note: Martins and Pereira, 1966: 247 designated *Gonioolanguria reichii* Crotch as the type species, with Fowler's species (*C. concinna* and *C. teres*) listed as junior synonyms. This designation is valid even though *C. reichii* (Crotch) was not included in the original generic description (ICNZ (1985) Article 69 (V)). Martins and Pereira (1966) state that *C. teres* was originally designated as a type species of genus *Compsolanguria* by Fowler (1886a) which is incorrect, no types were formally designated in his paper.

CONGODASTUS Villiers, 1961: 342.

Type species: *Congodastus mirificus* Villiers, 1961: 342 (by monotypy).

Distribution: Africa.

Number of species: 1.

DASYDACTYLUS Gorham, 1887a: 14.

Type species: *Dasydactylus buprestoides* Gorham, 1887a: 15 (by subsequent designation, Vaurie, 1948: 146).

Distribution: New World.

Number of species: 24.

DOUBLEDAYA White, 1850a: 13/1850b: 2834.

Type species: *Doubledaya viator* White, 1850a: 13/1850b: 2834 (by monotypy).

Languriosoma Crotch, 1876: 379. Type species: *Languriosoma muhoti* (sic!) Crotch, 1876: 379 (= *Languriosoma mouhoti* Crotch) (original designation). First synonymized by Arrow, 1925: 185.

Coptolanguria Gorham, 1896: 261. Type species: *Coptolanguria dilatipes* Gorham, 1896: 262 (by subsequent designation, Arrow, 1925: 185). First synonymized by Arrow, 1925: 185.

Cosmolanguria Kraatz, 1900b: 352. Type species: *Cosmolanguria ruficollis* Kraatz, 1900b: 351 (by monotypy). First synonymized by Arrow, 1925: 185.

Glyphilanguria Fowler, 1908: 14. Type species: *Glyphilanguria andrewesi* Fowler, 1908: 15 (original designation). First synonymized by Arrow, 1925: 185.

Distribution: Asia.

Number of species: 40.

Note: It is difficult to determine which of White's papers dated 1850 were published first.

ECTRAPEZIDERIA Fowler, 1908: 24.

Type species: *Trapezidera semiotina* Gorham, 1887a: 4 (by monotypy).

Distribution: Central America.

Number of species: 1.

EPILANGURIA Fowler, 1908: 18.

Type species: *Epilanguria tenuicornis* Fowler, 1908: 18 (by monotypy).

Leptolanguria Fowler, 1908: 35. Type species: *Languria longicollis* Fowler, 1887: 122 (**here designated**). First synonymized by Arrow 1925: 249.

Distribution: Asia.

Number of species: 5.

FATUA Dejean, 1837: 430.

Type species: *Languria longicornis* Wiedemann, 1823: 48 (by monotypy).

Macromelea Hope, 1840: 190. Type species: *Languria longicornis* Wiedemann, 1823: 48 (by monotypy).

Macromela Hope. Misspelling by Miwa, 1931: 75.

Distribution: Asia.

Number of species: 1.

GANLURIA Heller, 1918: 29.

Type species: *Ganluria subimpressa* Heller, 1918: 30 (by monotypy).

Distribution: Asia.

Number of species: 1.

GONIOLANGURIA Crotch, 1876: 395.

Type species: *Languria latipes* Saunders, 1834: 149 (original designation).

Goniocephala Chevrolat in Dejean, 1837: 430 (nomen nudum). First synonymized by Gemminger and Harold, 1876: 3680.

Distribution: Central and South America.

Number of species: 13.

IDIOLANGURIA Arrow, 1925: 181.

Type species: *Tetralanguria opaca* Kraatz, 1900b: 350 (by monotypy).

Distribution: Asia.

Number of species: 1.

ISCHNOLANGURIA Kraatz, 1900a: 308.

Type species: *Ischnolanguria concolor* Kraatz, 1900a: 308 (by subsequent designation, Villiers, 1945: 163).

Ischonolanguria Kraatz. Misspelling by Villiers, 1952: 821.

Distribution: Africa.

Number of species: 2.

LABIDOLANGURIA Fowler, 1908: 9.

Type species: *Labidolanguria mucronata* Fowler, 1908: 10 (by monotypy).

Distribution: Asia.

Number of species: 1.

LANGURIA Latreille, 1802: 209.

Type species: *Languria ruficollis* Latreille, 1802: 209 (= *Trogosita bicolor* Fabricius, 1798: 50) (by monotypy).

Janessa Chevrolat in Dejean 1837: 430. Type species: *Languria thoracica* Olivier, 1807: 463 (= *Trogosita bicolor* Fabricius, 1798: 50), (by monotypy). First synonymized by LeConte, 1854: 159.

Languiria Latreille. Misspelling? by Hope, 1831: 22.

Langura Latreille. Misspelling? by Rafinesque, 1815: 116.

Distribution: North and Central America.

Number of species: 18.

Note: Crotch, 1873a: 349 incorrectly designated *Languria mozardi* Latreille, 1807: 66 as a type species of *Languria*. Vaurie, 1948: 126 unnecessarily designated *Languria bicolor* Fabricius as a type species of the same genus. The type species of *Janessa* Chevrolat in Dejean, according to Gorham, 1887b: 361 is *Languria bicolor* Fabricius, and was unnecessarily designated. Hope (1831) and Rafinesque (1815) were not seen.

LANGURIOMORPHA Gorham, 1887b: 361.

Type species: *Languria lewisi* Crotch, 1873b: 184 (by monotypy).

Distribution: Asia.

Number of species: 5.

Note: Arrow, 1925: 172 considered *Languriomorpha* Gorham as a synonym of *Pachylanguria* Crotch.

LANGURIOPHASMA Arrow, 1925: 203.

Type species: *Languria cyanea* Hope, 1835: 94 (original designation).

Distribution: Asia.

Number of species: 4.

LANGURITES Motschulsky, 1860: 243.

Type species: *Languria lineata* Laporte de Castelnau, 1832: 412 (by subsequent designation, Crotch, 1876: 392).

Distribution: North and Central America.

Number of species: 2.

Note: Crotch, 1876: 392 designated *Languria lineata* Laporte de Castelnau, 1832: 412 as the type species, with all three of Motschulsky's species (*L. vitticollis*, *L. vittatus* and, *L. infuscatus*) listed as junior synonyms. This designation is valid even though *L. lineata* Castelnaau was not included in original generic description (ICNZ Article 69 (V)). Vaurie, 1948: 151 unnecessarily designated *Langurites vitticollis* Motschulsky, 1860: 243 as the type species.

LIGURANA Chūjō, 1974: 33.

Type species: *Ligurana clerooides* Chūjō, 1974: 35 (by monotypy).

Distribution: Asia.

Number of species: 1.

MALLEOLANGURIA Martins and Pereira, 1966: 211.

Type species: *Malleolanguria xenopus* Martins and Pereira, 1966: 212 (by monotypy).

Distribution: Central America.

Number of species: 1.

MEGALANGURIA Arrow, 1925: 168.

Type species: *Pachylanguria metasternalis* Crotch, 1876: 378 (original designation).

Distribution: Asia.

Number of species: 8.

MERISTOBELUS Gorham, 1887a: 7.

Type species: *Meristobelus forcipatus* Gorham, 1887a: 7 (by monotypy).

Distribution: Central America.

Number of species: 1.

NEANADASTUS Zia, 1959: 368 and 371.

Type species: *Neanadastus gracilis* Zia, 1959: 368 and 371 (original designation).

Distribution: Asia.

Number of species: 1.

NEOCLADOXENA Maeda, 1974: 6.

Type species: *Neocladoxena hisamatsui* Maeda, 1974: 7 (by monotypy).

Distribution: Asia.

Number of species: 1.

NOMOTUS Gorham, 1887a: 24.

Type species: *Nomotus pluto* Gorham, 1887a: 25 (original designation).

Distribution: Central America.

Number of species: 5.

ORTHOLANGURIA Crotch, 1876: 395.

Type species: *Ortholanguria batesii* Crotch, 1876: 395 (original designation).

Ortholanguroides Fowler, 1886a: 316. Type species: *Ortholanguroides egensis* Fowler, 1886a: 316 (here designated). First synonymized by Fowler, 1908: 26.

Distribution: Central and South America.

Number of species: 7.

OXYLANGURIA Crotch, 1876: 380.

Type species: *Oxylanguria acutipennis* Crotch, 1876: 381 (by monotypy).

Distribution: Asia.

Number of species: 1.

PACHYLANGURIA Crotch, 1876: 377.

Type species: *Languria paivae* (sic!) Wollaston, 1859: 430 (= *P. pairai* emend.), (original designation).

Distribution: Asia.

Number of species: 2.

Note: The epithet of the species name *Languria paivai*, a patronym for Prof. Barão do Castello de Paiva, should end with -i, not -e.

PAEDEROLANGURIA Mader, 1939: 44.

Type species: *Paederolanguria holdhausi* Mader, 1939: 44 (by monotypy).

Sinolanguria Zia, 1959: 366 and 370. Type species: *Sinolanguria alternata* Zia, 1959: 366 and 370 (original designation). First synonymized by Maeda, 1972: 24.

Distribution: Asia.

Number of species: 12.

PAULIANUS Villiers, 1943: 84.

Type species: *Languria illaetabilis* Pascoe, 1860: 131 (by monotypy).

Distribution: Africa.

Number of species: 2.

PENTELANGURIA Crotch, 1876: 380.

Type species: *Pentelanguria elateroides* Crotch, 1876: 380 (original designation).

Pentalanguria Crotch. Misspelling by Miwa, 1931: 73.

Distribution: Asia.

Number of species: 3.

PROMECOLANGURIA Fowler, 1885: 384.

Type species: *Languria nyassae* Fowler, 1885: 384 (by monotypy).

Barbaropus Gorham, 1887b: 362. Type species: *Languria nyassae* Fowler, 1885: 384 (by monotypy).

Distribution: Africa.

Number of species: 56, see Appendix.

Note: This is *Barbaropus* auctorum. Fowler (1885: 384) recognized this genus based on his species *Languria nyassae*. Later Fowler (1908) considered it a full genus that included *Barbaropus* as a synonym. Arrow 1929a: 4 includes this genus as a synonym of *Anadastus*.

SLIPINSKIELLA new name

Type species: *Languria dimidiata* Guérin-Méneville, 1844: 314 (**here designated**).

Promecolanguria auctorum, nec Fowler, 1885: 384.

Distribution: Africa, see Appendix.

Number of species: 50.

Note: see *Promecolanguria* Fowler.

Etymology: A patronym for Dr. Adam S. Ślipiński, our friend and mentor in the study of Coleoptera.

STENOLANGURIA Fowler, 1885: 387.

Type species: *Stenolanguria tricolor* Fowler, 1885: 388 (by subsequent designation, Gorham, 1887b: 362).

Distribution: Africa.

Number of species: 6.

TERETILANGURIA Crotch, 1876: 394.

Type species: *Teretilanguria kirschii* Crotch, 1876: 394 (original designation).

Distribution: Central and South America.

Number of species: 5.

Note: Gemminger and Harold, 1876: 3678 synonymized *Teretilanguria* with *Trapezidera* Motschulsky but they are currently regarded as distinct genera.

TETRAPHALA Sturm, 1843: 306.

Type species: *Languria splendens* Wiedemann, 1823: 46 (= *Tetraphala angularis* (Motschulsky, 1860: 243), (by monotypy).

Tetraphala Chevrolat in Dejean, 1837: 430 (nomen nudum). First synonymized under the name *Languria* Latreille by Gemminger and Harold, 1876: 3678.

Tetralanguria Crotch, 1876: 378. Type species: *Languria splendens* Wiedemann, 1823: 46 (= *Tetraphala angularis* (Motschulsky, 1860: 243), (original designation). **New synonym**.

Tetralanguroides Fowler, 1886a: 318. Type species: *Tetralanguroides fryi* Fowler, 1886a: 319 (by monotypy). **New synonym**.

Metabelus Gorham, 1887b: 361. Type species: *Pachylanguria borrei* Fowler, 1886b: CVII (by monotypy). **New synonym**.

Metabellus Gorham. Misspelling by Zia, 1935: 690.

Distribution: Asia.

Number of species: 23, see Appendix.

Note: Villiers (1945: 274) incorrectly designated *Trogosita elongata* Fabricius, 1801: 152 as the type species of *Tetralanguria*. Arrow (1925: 172) considered *Tetralanguria* and *Metabelus* synonyms of *Pachylanguria* Crotch. Fowler (1913: 133) incorrectly designated *Tetralanguroides sauteri* Fowler, 1913: 133 as a type species of *Tetralanguroides*. Arrow (1925: 172) considered *Metabelus* a synonym of *Pachylanguria* Crotch. Villiers, 1945: 274 listed *Tetralanguroides* as a synonym of *Tetralanguria* Crotch.

TRAPEZIDERNA Motschulsky, 1860: 244.

Type species: *Trapezidera angusticollis* Motschulsky, 1860: 244 (by subsequent designation, Crotch, 1876: 393).

Distribution: Central America.

Number of species: 5.

Note: Gorham, 1887a: 4 unnecessarily designated *Trapezidera aenea* Crotch, 1876: 393 as a new type species for this genus.

TRAPEZIDISTES Fowler, 1887: 124.

Type species: *Trapezidistes ritsemae* (sic!) Fowler, 1887: 124 (= *T. ritsemiae* Fowler) (by monotypy).

Lacertobelus Gorham, 1900: 358. Type species: *Lacertobelus dentipes* Gorham, 1900: 358 (**here designated**). First synonymized by Villiers, 1945: 177.

Chirolanguria Heller, 1918: 27. Type species: *Chirolanguria provocatrix* Heller, 1918: 28 (by monotypy). First synonymized by Villiers, 1945: 177.

Distribution: Asia.

Number of species: 10.

Cladoxenini Arrow

Cladoxeninae Arrow, 1925: 253. Type genus: *Cladoxena* Motschulsky, 1866.

CLADOXENA Motschulsky, 1866: 428.

Type species: *Cladoxena rufipes* Motschulsky, 1866: 429 (subsequent designation by Crotch, 1876: 396).

Distribution: Asia.

Number of species: 4.

Note: Arrow, 1925: 264 unnecessarily designated *Cladoxena maculata* Motschulsky, 1866: 428 as a type species.

CROTCHIA Fowler, 1886a: 305.

Type species: *Crotchia vagabunda* Fowler, 1886a: 306 (subsequent designation by Gorham, 1887b: 362).

Croatchia Fowler. Misspelling by Fleutiaux, 1887: 68.

Cladophila Chevrolat in Dejean, 1837: 430 (nomen nudum). First synonymized by Harold, 1879: 63.

Deerratus Bruce, 1952: 468. Type species: *Hapalips spegazzinii* Bruch, 1919: 522 (by monotypy). First synonymized by Martins and Costa, 1967: 60.

Distribution: Central and South America.

Number of species: 20.

Note: Sen Gupta, 1968a: 469 unnecessarily designated *Crotchia metallica* Fowler, 1886a: 306 as the type species. The name *Deerratus* Bruce (1952) is valid because characters are provided for the genus although they were discussed with regard to placement of the species in the old concept of Diphyllini (Erotylidae).

MICROLANGURIA Lewis, 1884: 348.

Type species: *Languria jansoni* Crotch, 1873b: 185 (by monotypy).

Microcladoxena Fowler, 1886a: 312. Type species: *Languria jansoni* Crotch, 1873b: 185 (original designation). First synonymized by Jakobson, 1915: 938.

Platycladoxena Kraatz, 1900a: 312. Type species: *Platycladoxena castanea* Kraatz, 1900a: 312 (by subsequent designation, Arrow 1929b: 316). First synonymized by Arrow, 1925: 260.

Distribution: Africa, Asia.

Number of species: 14.

Note: *Microcladoxena* is an unjustified emendation by Fowler, 1886a: 312.

PARACLADOXENA Fowler, 1886a: 310.

Type species: *Paracladoxena abundans* Arrow, 1925: 262 (= *Paracladoxena trifoliata* sensu Fowler, 1886a: 311) (by original designation).

Parachladoxena Fowler. Misspelling by Miwa, 1931: 76.

Distribution: Africa, Asia.

Number of species: 20.

Note: Gorham, 1901: 176 designated *Languria trifoliata* Harold, 1879: 738 as a type species of *Paracladoxena* and synonymized it with *Cladoxena*.

PENOLANGURIA Kolbe, 1897: 117.

Type species: *Penolanguria minuta* Kolbe, 1897: 117 (by monotypy).

Distribution: Africa.

Number of species: 15.

Thallisellini Sen Gupta

Thallisellini Sen Gupta, 1968a: 470. Type genus: *Thallisella* Crotch, 1876.

PLATOBERUS Sharp, 1900: 586.

Type species: *Platoberus latus* Sharp, 1900: 586 (by subsequent designation, Sen Gupta 1968a: 472).

Distribution: Central and South America.

Number of species: 10.

THALLISELLA Crotch, 1876: 402.

Type species: *Thallisella peruviana* Crotch, 1876: 403 (original designation).

Thalisella Crotch. Misspelling by Fowler, 1908: 39.

Thalasiella Crotch. Misspelling by Heller, 1920: 54.

Distribution: Central and South America.

Number of species: 13.

CRYPTOPHILINAE Casey

Cryptophilini Casey, 1900: 77. Type genus: *Cryptophilus* Reitter, 1874.

Cryptophilini Casey

BRACHYPTEROZA Zablotny and Leschen, 1996: 382.

Type species: *Brachypterosa pecki* Zablotny and Leschen, 1996: 385 (original designation).

Distribution: Asia.

Number of species: 1.

CHINOPHAGUS Ljubarsky, 1997: 112.

Type species: *Chinophagus mirabilis* Ljubarsky, 1997: 112 (original designation).

Distribution: Asia.

Number of species: 1.

CROWSONGUPTUS new name

Type species: *Coelocryptus mexicanus* Sharp, 1900: 594 (here designated).

Gender: masculine.

Coelocryptus Sharp, 1900: 593, nec *Coelocryptus* Thomson, 1873: 519 (Hymenoptera). Type species: *Coelocryptus mexicanus* Sharp, 1900: 594 (by subsequent designation, Sen Gupta and Crowson, 1971: 24).

Calocryptus Sharp. Misspelling by Fowler, 1912: 111.

Distribution: Central America.

Number of species: 4, see Appendix.

Note: The name *Coelocryptus* is preoccupied and we provide a new name.

Etymology: Patronyms for Professor Roy A. Crowson and Dr. Tapan Sen Gupta in honor of their contributions to langurid taxonomy.

Cryptophagops Grouvelle, 1919a: 67.

Type species: *Cryptophilus alluaudi* Grouvelle, 1896: 89 (by monotypy).

Distribution: Africa, Asia.

Number of species: 4.

Cryptophilus Reitter, 1874: 381.

Type species: *Cryptophagus integer* Heer, 1841: 426 (by subsequent designation Chūjō, 1969: 277).

Gryptophilus Reitter. Misspelling by Li Jng Ke, 1992: 130.

Distribution: World wide.

Number of species: 15.

Xenoscelinini Sen Gupta and Crowson

Xenoscelinini Sen Gupta and Crowson, 1971: 25. Type genus: *Xenoscelinus* Grouvelle, 1910.

Cathartocryptus Sharp, 1886: 392.

Type species: *Cathartocryptus obscurus* Sharp, 1886: 393 (= *Paramecosoma maculosa* Broun, 1881: 670), (by monotypy).

Xenoscelinus Grouvelle, 1910: 143. Type species: *Xenoscelinus malaicus* Grouvelle, 1910: 144 (by monotypy). **New synonym.**

Distribution: Asia, Australia, Africa.

Number of species: 8, see Appendix.

Note: The species *Paramecosoma maculosa* Broun, first described in 1881, was noted by Bruce (1943: 60) to be congeneric with the genus *Xenoscelinus*. Broun's species was later redescribed by Sharp (1886) in the genus *Cathartocryptus*, however we could not find a reference formalizing the synonymy of the two names, although the combination *Cathartocryptus maculosus* was used by Kuschel (1990) and the genus was included in the Cryptophilinae by Klimaszewski and Watt (1997) without justification. Here we formalize the synonymy of these genera, informally recognized by previous authors, after making dissections of identified specimens of *C. maculosus* to confirm its placement. The previously described species of *Xenoscelinus* are new combinations included in *Cathartocryptus*.

TORAMINAE Sen Gupta

Toraminae Sen Gupta, 1967: 168. Type genus: *Toramus* Grouvelle, 1916.

Atomarops Reitter, 1889: 302.

Type species: *Atomarops lewisi* Reitter, 1889: 302 (by monotypy).

Distribution: Asia.

Number of species: 3.

Empoecryptus Sharp, 1900: 593.

Type species: *Empoecryptus oralis* Sharp, 1900: 593 (by monotypy).

Embocryptus Sharp. Misspelling by Blackwelder 1945: 428.

Pseudhenoticus Sharp 1900: 596. Type species:

Pseudhenoticus parallelus Sharp, 1900: 596 (by monotypy). First synonymized by Leschen, 1997: 313.

Pseudohenoticus Sharp. Misspelling by Grouvelle, 1913: 51; 1919b: 154 and Blackwelder 1945: 428.

Distribution: Central and South America.

Number of species: 15.

Lepidotoramus Leschen, 1997: 314.

Type species *Lepidotoramus grouvellei* Leschen, 1997: 315 (by monotypy).

Distribution: South America.

Number of species: 1.

Loberoschema Reitter, 1896: 160.

Type species: *Loberoschema bimaculata* Reitter, 1896: 160 (by monotypy).

Philophlaeus Germain, 1855: 395, nec *Philophlaeus* Chaudoir, 1844: 472 (Coleoptera). Type species: *Philophlaeus aeneus* Germain, 1855: 396 (**here designated**). First synonymized by Grouvelle, 1919a: 67.

Philophloeus. Misspelling by Grouvelle, 1919a: 67.

Distribution: South America.

Number of species: 7.

Note: The name *Philophlaeus* Germain (1855) was synonymized by Grouvelle (1919a) who transferred one species to *Diplocoelus* (Biphyllidae) and the other to *Loberoschema*. *Stengita* is similar to the type species of *Loberoschema*, and they may be synonyms but no taxonomic change is made here.

Lobosternum Reitter, 1875a: 39.

Type species: *Lobosternum clavicone* Reitter, 1875a: 39 (by monotypy).

Distribution: South America.

Number of species: 1.

Stengita Reitter, 1875a: 39.

Type species: *Stengita nodifera* Reitter, 1875a: 39 (by monotypy).

Distribution: South America.

Number of species: 1.

Note: See *Loberoschema* regarding possible synonymy.

Tomarops Grouvelle, 1903: 343.

Type species: *Tomarops punctatus* Grouvelle, 1903: 343 (by monotypy).

Distribution: Asia, Africa.

Number of species: 3.

Toramus Grouvelle, 1916: 26.

Type species: *Tomarus pulchellus* LeConte, 1863: 71 (by monotypy), (*Tomarus* was a new name for *Tomarus* LeConte, nec Erichson).

Tomarus LeConte, 1861: 99, nec Erichson, 1847: 95 (Coleoptera). Type species: *Tomarus pulchellus* LeConte, 1863: 71 (by subsequent monotypy).

Itomarus Reitter, 1920: 220 (unnecessary new name for *Tomarus* LeConte, nec Erichson). Type species: *Tomarus pulchellus* LeConte, 1863: 71 (by monotypy). *Itotomarus* Reitter. Misspelling by Schenkling, 1923: 13. *Eudodactylus* Motschulsky: Reitter, 1883: 75 (nomen nudum)
Distribution: World wide.
Number of species: 44.

SETARIOLINAE Crowson

Setariini Casey, 1900: 77. Type genus: *Setaria* Mulsant and Rey, 1863.
Setariolinae Crowson, 1952: 127. Type genus: *Setariola* Jakobson, 1915.

Note: The name *Setariini* Casey is unavailable, because is based on the preoccupied genus *Setaria* Mulsant and Rey, nec Viborg, nec Blyth (ICZN (1985) Article 39).

SETARIOLA Jakobson, 1915: 941.

Type species: *Setaria sericea* Mulsant and Rey, 1863: 2 (by monotypy), (new name for *Setaria* Mulsant and Rey, nec Viborg, nec Blyth).

Setaria Mulsant and Rey, 1863: 1, nec Viborg, 1795 (Nematoda), nec Blyth, 1844: 385 (Aves). Type species: *Setaria sericea* Mulsant and Rey, 1863: 2 (by monotypy).

Setarella Reitter, 1920: 220. Type species: *Setaria sericea* Mulsant and Rey, 1863: 2 (by monotypy), (unnecessary new name for *Setaria* Mulsant and Rey, nec Viborg, nec Blyth).

Distribution: Southern Europe.

Number of species: 1.

Note: The work of Oken (1815), in which he used name *Setaria* (Vermes), is placed on the Official Index of Rejected and Invalid Works in Zoological Nomenclature (Opinion 417 ICNZ, 1956).

XENOSCELINAE Ganglbauer

Xenoscelini Ganglbauer, 1899: 649. Type genus: *Xenoscelis* Wollaston, 1864.

Xenoscelini Ganglbauer

Xenoscelini Ganglbauer, 1899: 649. Type genus: *Xenoscelis* Wollaston, 1864.

Pharaxonothinae Crowson, 1952: 127. Type genus: *Pharaxonotha* Reitter, 1875a.

Eicolyctini Vogt, 1967: 103. Type genus: *Eicolyctus* Sahlberg, 1919.

HENOTICONUS Reitter, 1878: 127.

Type species: *Henoticus* (sic!) *triphylloides* Reitter, 1878: 127 (by monotypy).

Distribution: Asia.

Number of species: 1.

LEUCOHIMATIOPS Heller, 1923: 275.

Type species: *Leucohimatiops javanus* Heller, 1923: 275 (by monotypy).

Distribution: Asia.

Number of species: 1.

LEUCOHIMATIUM Rosenhauer, 1856: 179.

Type species: *Leucohimatium angustum* Rosenhauer, 1856: 181 (= *Tenebrio arundinaceus* Forskål, 1775: 78 (by monotypy).

Leucohivatium. Misspelling by Reitter in Brenske and Reitter, 1884: 62

Distribution: World wide.

Number of species: 8.

LOBEROGOSMUS Reitter, 1876: 291.

Type species: *Engis fasciata* Kolenati, 1846: 54 (by monotypy).

Distribution: Europe.

Number of species: 1.

LOBEROLUS Grouvelle, 1919b: 113.

Type species: *Loberolus agilis* Grouvelle, 1919b: 113 (here designated).

Distribution: Madagascar, South America.

Number of species: 2.

LOBEROPSYLLUS Martínez and Barrera, 1966: 11.

Type species: *Loberopsyllus traubi* Martínez and Barrera, 1966: 11 (original designation).

Distribution: Central America.

Number of species: 2.

MACROPHAGUS Motschulsky, 1845: 51.

Type species: *Macrophagus robustus* Motschulsky, 1845: 51 (by monotypy).

Haplolophus Frivaldszky, 1865: 190. Type species:

Haplolophus neglectus Frivaldszky, 1865: 191 (by monotypy). First synonymized by Reitter in Heyden, Reitter and Weise, 1906: 331.

Distribution: Asia, Europe.

Number of species: 2.

OTHNIOCRYPTUS Sharp, 1900: 598.

Type species: *Othniocryptus variegatus* Sharp, 1900: 599 (by monotypy).

Distribution: Central America.

Number of species: 1.

PHARAXONOTHA Reitter, 1875a: 44.

Type species: *Pharaxonotha kirschii* Reitter, 1875a: 44 (by monotypy).

Pharaxonota Reitter. Misspelling by Bedel, 1889: 151.

Pharoxonotha Reitter. Misspelling by Sharp, 1900: 598.

Pharaxonata Reitter. Misspelling by Mader, 1955: 65.

Pharaxanota Reitter. Misspelling by Sasaji, 1991: 14.

Planismus Casey, 1890: 500. Type species: *Planismus floridanus* Casey, 1890: 501 (by monotypy). First synonymized by Kingsolver, 1973: 247.

Distribution: Central and North America, Asia.

Number of species: 11.

Note: Reitter (1875a) described this genus as *Pharaxonotha* and in the heading it was misspelled as *Pharoxonotha* which was corrected in proof (Reitter 1875a: 86).

RHOPALOCRYPTUS Arrow, 1929b: 313.

Type species: *Rhopalocryptus pulcher* Arrow, 1929b: 314 (by monotypy).

Distribution: Asia.

Number of species: 1.

XENOCRYPTUS Arrow, 1929b: 314.

Type species: *Xenocryptus tenebrioides* Arrow, 1929b: 315 (by monotypy).

Distribution: Australia.

Number of species: 1.

XENOSCELIS Wollaston, 1864: 132.

Type species: *Pristoscelis deplanatus* Wollaston, 1862: 152 (by monotypy). (*Xenoscelis* was a new name for *Pristoscelis* Wollaston, nec LeConte).

Pristoscelis Wollaston, 1862: 151, nec LeConte, 1861: 193 (Coleoptera). Type species: *Pristoscelis deplanatus* Wollaston, 1862: 152 (by monotypy).

Pediaphloeus Tournier, 1869: 11. Type species: *Pediacus costipennis* Fairmaire, 1852: 78 (by monotypy). First synonymized under the name *Xenoscelis* by Ganglbauer, 1899: 649.

Diochares Reitter, 1872: 168, nec Pascoe, 1866: 303 (Coleoptera). Type species: *Diochares depressus* Reitter, 1872: 169 (by monotypy). First synonymized under the name *Pediaphloeus* by Kraatz, 1872: 186. First synonymized under the name *Xenoscelis* by Reiche, 1878: CXXXIV.

Distribution: Southern Europe, Northern Africa.

Number of species: 3.

ZAVALJUS Reitter, 1880: 544.

Type species: *Zavaljus fausti* Reitter, 1880: 544 (= *Cryptophagus brunneus* Gyllenhal, 1808) (by monotypy).

Eicolyctus Sahlberg, 1919: 4. Type species: *Cryptophagus brunneus* Gyllenhal, 1808: 174. First synonymized by Silfverberg, 1992: 53.

Eicalyctus Sahlberg. Misspelling by Crowson, 1955: 103.

Distribution: Europe.

Number of species: 1.

Loberonothini Sen Gupta and Crowson

Loberonothini Sen Gupta and Crowson, 1969: 127. Type genus: *Loberonotha* Sen Gupta and Crowson, 1969.

LOBERONOTHA Sen Gupta and Crowson, 1969: 127.

Type species: *Telmatophilus olivescens* Broun, 1893: 1104 (original designation).

Distribution: New Zealand.

Number of species: 2.

Loberini Bruce

Loberinae Bruce, 1951: 4. Type genus: *Loberus* LeConte, 1861.

ACRYPTOPHAGUS Grouvelle, 1919b: 71.

Type species: *Acryptophagus loberinus* Grouvelle, 1919b: 71 (by monotypy).

Distribution: South America.

Number of species: 1.

BOLERUS Grouvelle, 1919b: 92.

Type species: *Croatchia* (sic!) *minuta* Fleutiaux, 1887: 68 (= *Crotchia minuta* Fleutiaux), (by subsequent designation, Sen Gupta, 1968b: 16).

Thalliselloides Arrow, 1925: 256. Type species: *Thallis transversus* Gorham, 1895: 325 (original designation). First synonymized by Arrow, 1929b: 316.

Distribution: Asia.

Number of species: 16.

Note: Arrow, 1929b: 316 erroneously synonymized genera *Bolerus* and *Thalliselloides* Arrow with *Platycladoxena* Kraatz (= *Microcladoxena* Lewis).

FITO Dajoz, 1973: 210.

Type species: *Fitoa testacea* Dajoz, 1973: 211 (by monotypy).

Distribution: Madagascar.

Number of species: 1.

Note: This monotypic genus was originally included in Endomychidae and is very similar to *Loberus* (S. A. Ślipiński, pers. comm.) and *Stenodina*.

HAPALIPS Reitter, 1877: 122.

Type species: *Hapalips mexicanus* Reitter, 1877: 122 (by subsequent designation, Sen Gupta, 1968b: 6).

Loberina Grouvelle, 1902: 485. Type species: *Loberina taprobanae* Grouvelle, 1902: 485 (by monotypy). First synonymized by Grouvelle, 1919a: 66.

Isolanguria Lea, 1929: 240. Type species: *Hapalips investigatus* new name (= *Isolanguria fusca* Lea, 1929: 241) (= *Hapalips fuscus* (Lea, 1929) new combination, nec *Hapalips fuscus* Reitter, 1877) (by monotypy). New synonym.

Subgenus *Carophorus* Sen Gupta, 1968b: 8. Type species: *Hapalips fuscus* Reitter, 1877: 127 (original designation).

Subgenus *Xenosceloides* Sen Gupta, 1968b: 8. Type species: *Xenoscelis prolixus* Sharp, 1876: 26 (original designation).

Distribution: World wide.

Number of species: 57.

Note. Examination of the type specimen of *Isolanguria fusca* Lea resulted in the above synonymy. Because *Hapalips fuscus* (Lea) is preoccupied by *Hapalips fuscus* Reitter, we provide the replacement name *Hapalips investigatus* new name.

LOBERUS LeConte, 1861: 98.

Type species: *Loberus impressus* LeConte, 1863: 70 (by subsequent monotypy).

Glisonotha Motschulsky, 1863: 430. Type species: *Glysonotha* (sic!) *setosa* Motschulsky, 1863: 431 (= *Glisonotha setosa*) (**here designated**). First synonymized by Reitter, 1875b: 74.

Glysonotha Motschulsky. Misspelling by Motschulsky, 1863: 431 and Grouvelle, 1902: 485.

Distribution: World wide.

Number of species: 72.

PAPHEZIA Zablotny and Leschen, 1996: 385.

Type species: *Paphezia detritophila* Zablotny and Leschen, 1996: 388 (by monotypy).

Distribution: Asia.

Number of species: 1.

PSEUDHAPALIPS Champion, 1913: 112.

Type species: *Pseudhapalips lamellifer* Champion, 1913: 112 (by monotypy).

Pseudohapalips Champion. Misspelling by Grouvelle, 1919b: 70.

Distribution: South America.

Number of species: 2.

STENODINA Fairmaire, 1898: 498.

Type species: *Stenodina quadriguttata* Fairmaire, 1898: 499 (by monotypy).

Distribution: Madagascar.

Number of species: 1.

Note: Previously included in Endomychidae (J. Pakaluk, pers. com.). This is probably a junior synonym of *Loberius* (P. Węgrzynowicz, pers. obs.).

TELMATOSCIUS Sharp, 1900: 581.

Type species: *Telmatoscius claviger* Sharp, 1900: 581 (by monotypy).

Distribution: Central America.

Number of species: 2.

TRUQUIELLA Champion, 1913: 87.

Type species: *Truquiella gibbifera* Champion, 1913: 87 (by monotypy).

Distribution: Central America.

Number of species: 1.

TAXON INCORRECTLY INCLUDED IN LANGURIDIIDAE

ACROPTERYX Gistel, 1831: 308.

Type species: *Acropteryx rufipes* Gistel, 1831: 308 (by monotypy).

Acropteroxys Gistel. Misspelling by Martins and Pereira, 1966: 159.

Note: This genus was included in Languriidae by Schenkling 1928: 34, but it probably belongs to Tenebrionidae as *Acropteron rufipes* (Gistel) (see Martins and Pereira, 1966: 159).

NOMEN NUDUM

THALASSIA Chevrolat in Dejean, 1837: 430 (nomen nudum).

Species included: *Thalassia viridipennis* Dejean, 1837: 430 (nomen nudum).

Ciclion Gistel, 1848. Unnecessary new name for *Thalassia* Chevrolat in Dejean, nec Solander (Najadaceae).

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APPENDIX: List of new combinations resulting from taxonomic changes

Promecolanguria adami (Villiers 1952) **comb. nov.**
Promecolanguria aethiopica (Villiers 1961) **comb. nov.**
Promecolanguria angulicollis (Villiers 1961) **comb. nov.**
Promecolanguria atricolor (Oliff in Oates 1889) **comb. nov.**
Promecolanguria berolinensis (Villiers 1961) **comb. nov.**
Promecolanguria bintumanensis (Villiers 1965) **comb. nov.**
Promecolanguria breuningi (Villiers 1961) **comb. nov.**
Promecolanguria brunnea (Kraatz 1895) **comb. nov.**
Promecolanguria casamancensis (Villiers 1963) **comb. nov.**
Promecolanguria compacta (Villiers 1958) **comb. nov.**
Promecolanguria cuprea Arrow in Johnston, 1902
 (described as *Promecolanguria*)
Promecolanguria cylindrica (Villiers 1958) **comb. nov.**
Promecolanguria dahomeyensis (Villiers 1961) **comb. nov.**
Promecolanguria decellei (Villiers 1968) **comb. nov.**
Promecolanguria decorata (Villiers 1961) **comb. nov.**
Promecolanguria delkeskampi (Villiers 1961) **comb. nov.**
Promecolanguria dubia (Fowler 1885) **comb. nov.**
Promecolanguria egregia (Arrow 1929) **comb. nov.**
Promecolanguria elateroides (Kraatz 1895) **comb. nov.**
Promecolanguria elongata (Villiers 1961) **comb. nov.**
Promecolanguria explanata (Villiers 1965) **comb. nov.**
Promecolanguria felix (Villiers 1958) **comb. nov.**
Promecolanguria fusca (Villiers 1945) **comb. nov.**
Promecolanguria germaini (Villiers 1966) **comb. nov.**
Promecolanguria gigantea (Villiers 1945) **comb. nov.**
Promecolanguria gravis (Arrow 1939) **comb. nov.**
Promecolanguria guineensis (Villiers 1962) **comb. nov.**
Promecolanguria ivoriensis (Villiers 1979) **comb. nov.**
Promecolanguria kitalensis (Villiers 1945) **comb. nov.**
Promecolanguria krugeri (Villiers 1962) **comb. nov.**
Promecolanguria laevis (Villiers 1958) **comb. nov.**
Promecolanguria lamtoensis (Villiers 1979) **comb. nov.**
Promecolanguria leleupi (Villiers 1958) **comb. nov.**
Promecolanguria maderi (Villiers 1956) **comb. nov.**
Promecolanguria martinii (Villiers 1961) **comb. nov.**
Promecolanguria meeli (Villiers 1952) **comb. nov.**
Promecolanguria methneri (Villiers 1961) **comb. nov.**
Promecolanguria mouchei (Villiers 1961) **comb. nov.**
Promecolanguria mozambica (Villiers 1961) **comb. nov.**
Promecolanguria nigrita (Villiers 1948) **comb. nov.**
Promecolanguria nyassae (Fowler 1885) **comb. nov.**
Promecolanguria olseni (Villiers 1962) **comb. nov.**
Promecolanguria orientalis (Villiers 1958) **comb. nov.**
Promecolanguria ornata (Villiers 1958) **comb. nov.**
Promecolanguria picea (Villiers 1945) **comb. nov.**
Promecolanguria pubescens (Villiers 1945) **comb. nov.**
Promecolanguria raffrayi (Villiers 1952) **comb. nov.**
Promecolanguria saegeri (Villiers 1961) **comb. nov.**
Promecolanguria schoemakeri (Villiers 1961) **comb. nov.**
Promecolanguria sericea (Arrow 1929) **comb. nov.**
Promecolanguria similis (Villiers 1961) **comb. nov.**
Promecolanguria solida (Arrow 1929) **comb. nov.**
Promecolanguria turneri (Arrow 1929) **comb. nov.**
Promecolanguria vilhenai (Villiers 1959) **comb. nov.**
Promecolanguria zanzibarica (Villiers 1958) **comb. nov.**
Promecolanguria zumpti (Villiers 1962) **comb. nov.**

Slipinskiella abyssinica (Villiers 1961) **comb. nov.**
Slipinskiella africana (Chevrolat in Guérin-Meneville 1844)
 comb. nov.
Slipinskiella armata (Villiers 1948) **comb. nov.**
Slipinskiella arrowi (Villiers 1945) **comb. nov.**
Slipinskiella atrocyanea (Villiers 1952) **comb. nov.**
Slipinskiella babaulti (Villiers 1945) **comb. nov.**
Slipinskiella bacqui (Villiers 1961) **comb. nov.**
Slipinskiella brazzae (Villiers 1966) **comb. nov.**
Slipinskiella burgeoni (Villiers 1945) **comb. nov.**
Slipinskiella canaliculata (Arrow 1929) **comb. nov.**
Slipinskiella carvalhoi (Villiers 1959) **comb. nov.**
Slipinskiella charica (Villiers 1945) **comb. nov.**
Slipinskiella collarti (Villiers 1945) **comb. nov.**
Slipinskiella cylindrica (Villiers 1961) **comb. nov.**
Slipinskiella debilis (Arrow 1929) **comb. nov.**
Slipinskiella decorsei (Villiers 1945) **comb. nov.**
Slipinskiella demoulini (Villiers 1961) **comb. nov.**
Slipinskiella dimidiata (Guérin-Ménéville, 1844) **comb. nov.**
Slipinskiella dollmani (Arrow 1929) **comb. nov.**
Slipinskiella elongata (Villiers 1945) **comb. nov.**
Slipinskiella filiformis (Villiers 1952) **comb. nov.**
Slipinskiella fulricornis (Villiers 1952) **comb. nov.**
Slipinskiella garambana (Villiers 1961) **comb. nov.**
Slipinskiella janssensi (Villiers 1952) **comb. nov.**
Slipinskiella kaszabi (Villiers 1969) **comb. nov.**
Slipinskiella leleupi (Villiers 1957) **comb. nov.**
Slipinskiella lomensis (Villiers 1965) **comb. nov.**
Slipinskiella machadoi (Villiers 1959) **comb. nov.**
Slipinskiella maublanci (Villiers 1942) **comb. nov.**
Slipinskiella melanocephala (Villiers 1945) **comb. nov.**
Slipinskiella natalensis (Gorham 1901) **comb. nov.**
Slipinskiella nigricollis (Kraatz 1895) **comb. nov.**
Slipinskiella nigrimana (Villiers 1961) **comb. nov.**
Slipinskiella nigroapicalis (Villiers 1961) **comb. nov.**
Slipinskiella nimbanda (Villiers 1963) **comb. nov.**
Slipinskiella nubila (Villiers 1961) **comb. nov.**
Slipinskiella pilosa (Villiers 1958) **comb. nov.**
Slipinskiella pseudosulcicollis (Villiers 1942) **comb. nov.**
Slipinskiella pulchella (Pascoe 1860) **comb. nov.**
Slipinskiella rubrocephala (Villiers 1957) **comb. nov.**
Slipinskiella rufocephala (Villiers 1945) **comb. nov.**
Slipinskiella rufocincta (Arrow 1929) **comb. nov.**
Slipinskiella saegeri (Villiers 1961) **comb. nov.**
Slipinskiella somatica (Villiers 1962) **comb. nov.**
Slipinskiella sulcicollis (Fairmaire 1891) **comb. nov.**
Slipinskiella terminalis (Arrow 1929) **comb. nov.**
Slipinskiella trogositoides (Gorham 1900) **comb. nov.**
Slipinskiella vassei (Villiers 1958) **comb. nov.**
Slipinskiella verschureni (Villiers 1961) **comb. nov.**
Slipinskiella wittei (Villiers 1952) **comb. nov.**

Tetraphala aenea (Fowler 1887) **comb. nov.**
Tetraphala amoena (Harold 1879) **comb. nov.**
Tetraphala angularis (Motschulsky 1860) **comb. nov.**
Tetraphala apicata (Zia 1959) **comb. nov.**
Tetraphala borneensis (Harold 1879) **comb. nov.**
Tetraphala borei (Fowler 1886) **comb. nov.**

Tetraphala collaris (Crotch 1876) comb. nov.
Tetraphala cuprea (Arrow 1925) comb. nov.
Tetraphala elongata (Fabricius 1801) comb. nov.
Tetraphala excisa (Arrow 1929) comb. nov.
Tetraphala fraterna (Zia 1959) comb. nov.
Tetraphala fryi (Fowler 1886) comb. nov.
Tetraphala humeralis (Arrow 1925) comb. nov.
Tetraphala impressicollis (Kraatz 1900) comb. nov.
Tetraphala metallica (Villiers 1945) comb. nov.
Tetraphala miles (Fowler 1913) comb. nov.
Tetraphala oneica (Zia 1959) comb. nov.
Tetraphala parallela (Zia 1933) comb. nov.
Tetraphala sauteri (Fowler 1913) comb. nov.
Tetraphala simplex (Fowler 1913) comb. nov.
Tetraphala tienmuensis (Zia 1959) comb. nov.

Tetraphala tumidicollis (Kraatz 1900) comb. nov.
Tetraphala variventris (Kraatz 1900) comb. nov.
Crowsonguptus cognatus (Sharp 1900) comb. nov.
Crowsonguptus discedens (Sharp 1900) comb. nov.
Crowsonguptus mexicanus (Sharp 1900) comb. nov.
Crowsonguptus pallens (Sharp 1900) comb. nov.

Cathartocryptus ater (Grouvelle 1914) comb. nov.
Cathartocryptus australiensis (Sen Gupta and Crowson 1971) comb. nov.
Cathartocryptus concolor (Grouvelle 1916) comb. nov.
Cathartocryptus hiranoi (Sasaji 1989) comb. nov.
Cathartocryptus maculosus (Broun 1881) comb. nov.
Cathartocryptus malaicus (Grouvelle 1910) comb. nov.
Cathartocryptus tasmanicus (Grouvelle 1911) comb. nov.

Index

abundans, Paracladodoxena 230
 abyssinica, Slipinskiella 239
Aerolanguria 226
Acropteroxys 226, 234
Acropteryx 234
Acrytophagus 233
acutipennis, *Oxylanguria* 228
adami, *Promecolanguria* 239
aenea, *Tetraphala* 239
aenea, *Trapezidera* 229
aeneonigra, *Aerolanguria* 226
aeneus, *Philophlaeus* 231
aethiopica, *Promecolanguria* 239
africana, *Slipinskiella* 239
agilis, *Loberolus* 232
alluaudi, *Cryptophilus* 231
alternata, *Sinolanguria* 229
amoena, *Tetraphala* 239
Amyduvea 226
Anadastus 225, 226, 229
andrewesi, *Glyphilanguria* 227
angularis, *Tetraphala* 229, 239
angulicollis, *Promecolanguria* 239
angusticollis, *Trapezidera* 229
angustum, *Leucohimatium* 232
Anisoderomorpha 226
Anomalolanguria 226
apicata, *Tetraphala* 239
Apterodastus 226
armata, *Slipinskiella* 239
arrowi, *Slipinskiella* 239
arundinaceum, *Leucohimatium* 225
arundinaceus, *Tenebrio* 232
ascendens, *Gurilana* 226
ater, *Cathartocryptus* 240
Atomarops 231
atricolor, *Promecolanguria* 239
atrocyanea, *Slipinskiella* 239
australiensis, *Cathartocryptus* 240
Aves 232
babaulti, *Slipinskiella* 239
bacqui, *Slipinskiella* 239
Barbaropus 229
Basidiomycetes 225
Basulanguria 226
batesii, *Ortholanguria* 228

berolinensis, *Promecolanguria* 239
bicolor, *Languria* 228
bicolor, *Trogosita* 228
bimaculata, *Loberoschema* 231
bintumanensis, *Promecolanguria* 239
Biphyllidae 222, 224, 231
Bolerus 233
borneensis, *Tetraphala* 239
borrei, *Pachylanguria* 229
borrei, *Tetraphala* 240
Brachypterosa 230
Brasilanguria 226
brazzae, *Slipinskiella* 239
breuningi, *Promecolanguria* 239
brunnea, *Promecolanguria* 233
brunneus, *Cryptophagus* 225
brunneus, *Zavaljus* 227
buprestoides, *Dasydaetylus* 239
burgeoni, *Slipinskiella* 226
Caenoelanguria 226
Caenolanguria 226
Callilanguria 226
Calocryptus 230
cambodiae, *Languria* 226
Camptocarpus 226
canaliculata, *Slipinskiella* 239
carvalhoi, *Slipinskiella* 239
casamancensis, *Promecolanguria* 239
castanea, *Platycladoxena* 230
Cathartocryptus 224, 225, 231
caudatus, *Acropteryx* 226
Cavophorus 233
Celolanguria 226
charica, *Slipinskiella* 239
Chinophagus 230
Chirolanguria 229
Chromaugea 227
Chrysomelidae 222
Ciclion 234
Cladophila 230
Cladoxena 230
Cladoxeninae 230
Cladoxenini 223, 225, 230
clavicornis, *Lobosternum* 231
elaviger, *Telmatoscius* 234
Clavipalpes 222

cleroides, *Ligurana* 228
Clerolanguria 227
Clerolianguria 227
Cnecosa 223
coarctata, *Languria* 226
Coelocryptus 224, 230
Coenolanguria 226
cognatus, *Crowsonguptus* 240
Coleoptera 231, 233
collaris, *Tetraphala* 240
collarti, *Slipinskiella* 239
compacta, *Promecolanguria* 239
Compsolanguria 227
concinna, *Compsolanguria* 227
concolor, *Cathartocryptus* 240
concolor, *Ischnolanguria* 227
Congodastus 227
Coptolanguria 227
Cosmolanguria 227
costipennis, *Pediacus* 233
crassicollis, *Ischnolanguria* 226
Croatchia 230
Crotchia 230
Crowsonguptus 225, 230
Cryptophagidae 221, 222, 223, 224
Cryptophaginae 223
Cryptophagops 224, 231
Cryptophilidae 224
Cryptophilinae 222, 223, 224, 225, 230
Cryptophilus 222, 224, 225, 230, 231
Cuejoidea 222
cuprea, *Promecolanguria* 239
cuprea, *Tetraphala* 240
curvipes, *Celolanguria* 226
eyanea, *Languria* 228
cylindrica, *Promecolanguria* 239
cylindrica, *Slipinskiella* 239
Daene 223
Daeninae 223
dahomeyensis, *Promecolanguria* 239
Dasydaetylus 227
debilis, *Slipinskiella* 239
decellei, *Promecolanguria* 239
decorata, *Promecolanguria* 239
deorsei, *Slipinskiella* 239

- Deerratus 230
 delkeskampi, Promecolanguria 239
 demoulini, Slipinskiella 239
 dentipes, Lacertobelus 229
 deplanatus, Pristoscelis 233
 depressus, Diochares 233
 detritophila, Paphezia 234
 dilatipes, Coptolanguria 227
 dimidiata, Languria 229
 dimidiata, Slipinskiella 239
 Diochares 233
 Diplocoelus 231
 discedens, Crowsonguptus 240
 dollmani, Slipinskiella 239
 Doubledaya 227
 dubia, Promecolanguria 239
 Ectrapezidera 227
 egensis, Ortholanguroides 228
 egregia, Promecolanguria 239
 Eicalyctus 233
 Eieolyctini 232
 Eieolyctus 232, 233
 elateroides, Pentelanguria 229
 elateroides, Promecolanguria 239
 elongata, Promecolanguria 239
 elongata, Slipinskiella 239
 elongata, Tetraphala 240
 elongata, Trogosita 229
 Embocryptus 231
 Empocryptus 224, 231
 Endomychidae 222
 Epilanguria 227
 Eotylene 222
 Eotylidae 221, 222, 223, 224, 225, 230
 Eudodactylus 232
 excisa, Tetraphala 240
 explanata, Promecolanguria 239
 fasciata, Engis 232
 Fatus 227
 fausti, Zavaljus 233
 felix, Promecolanguria 239
 filiformis, Slipinskiella 239
 fliformis Trogosita 226
 Fitoa 224, 233
 flavipes, Goniolanguria 226
 floridanus, Planismus 232
 forcipatus, Meristobelus 228
 fraterna, Tetraphala 240
 fryi, Tetralanguroides 229
 fryi, Tetraphala 240
 fulvicornis, Slipinskiella 239
 fusca, Isolanguria 233
 fusca, Promecolanguria 239
 fuscus, Hapalips 233
 Ganluria 227
 garambana, Slipinskiella 239
 germaini, Promecolanguria 239
 gibbifera, Truquiella 234
 gigantea, Promecolanguria 239
 Glisonotha 234
 Glyphilanguria 227
 Glysonotha 234
 Goniocephala 227
 Goniolanguria 227
 gracilis, Languria 226
 gracilis, Neanadastus 228
 gravis, Promecolanguria 239
 grouvellei, Lepidotoramus 231
 Cryptophilus 231
 guineensis, Promecolanguria 239
 Gurilana 226
 Hapalips 223, 233
 Haplolophus 224, 232
 Henoticonus 232
 hisamatsui, Neocladoxena 228
 hiranoi, Cathartocryptus 240
 holdhausi, Paederolanguria 229
 Hoplepiscapha 224
 humeralis, Tetraphala 240
 Idiolanguria 227
 illaetabilis, Languria 229
 impressicollis, Tetraphala 240
 impressus, Loberus 233
 infuscatus, Langurites 228
 integer, Cryptophagus 231
 integer, Cryptophilus 225
 investigatus, Hapalips 233
 Ischnolanguria 227
 Ischonolanguria 227
 Isolanguria 225, 233
 Itomarus 232
 Itotomarus 232
 ivoriensis, Promecolanguria 239
 Janessa 228
 jansoni, Languria 230
 janssensi, Slipinskiella 239
 javanus, Leucohimatiops 225, 232
 kaszabi, Slipinskiella 239
 kirschii, Pharaxonotha 225, 232
 kirschii, Teretilanguria 229
 kitalensis, Promecolanguria 239
 krugeri, Promecolanguria 239
 Labidolanguria 228
 Lacertobelus 229
 laevis, Promecolanguria 239
 lamellifer, Pseudhapalips 234
 lamtoensis, Promecolanguria 239
 Languria 228
 Languiridae 222
 Langura 228
 Languria 222, 226, 228, 229
 Languriidae 221, 222, 223, 225, 226
 Languriides 226
 Languriinae 221, 222, 223, 225, 226
 Languriini 223, 225, 226
 Languriomorpha 228
 Languriopasma 228
 Languriosoma 227
 Langurites 228
 latipes, Languria 227
 latus, Platoberus 230
 lavanica, Basulanguria 226
 leleupi, Promecolanguria 239
 leleupi, Slipinskiella 239
 Lepidoptera 225
 Lepidotoramus 224, 225, 231
 Leptolanguria 227
 Leucohimatiops 232
 Leucohimatiuum 224, 232
 Leucohivatum 232
 lewisi, Atomarops 231
 lewisi, Languria 228
 Ligurana 228
 lineata, Languria 228
 Loberina 233
 Loberinae 223, 233
 Loberini 233
 loberinus, Acryptophagus 233
 Loberogosmus 232
 Loberolus 232
 Loberonotha 223, 233
 Loberonothini 223, 233
 Loberopsyllus 224, 225, 232
 Loberoschema 225, 231
 Loberus 223, 224, 233, 234
 Lobosternum 224, 231
 lomensis, Slipinskiella 239
 longicollis, Languria 227
 longicollis, Trapezidera 226
 longicornis, Languria 227
 luzonica, Callilanguria 226
 machadoi, Slipinskiella 239
 Macromela 227
 Macromelea 227
 Maerophagus 224, 232
 maculata, Cladoxena 230
 maculosa, Paramecosoma 231
 maculosus, Cathartocryptus 231, 240
 maderi, Promecolanguria 239
 malaicus, Cathartocryptus 240
 malaicus, Xenoscelinus 231
 Malleolanguria 228
 martini, Promecolanguria 239
 maublanci, Slipinskiella 239
 meeli, Promecolanguria 239
 Megalanguria 228
 melanocephala, Slipinskiella 239
 melanosterna, Languria 226
 Meristobelus 228
 Metabellus 229
 Metabelus 229
 metallescens, Stenodastus 226
 metallica, Crotchia 230
 metallica, Tetraphala 240
 metasternalis, Pachylanguria 228
 methneri, Promecolanguria 239
 mexicanus, Coelocryptus 230
 mexicanus, Crowsonguptus 240
 mexicanus, Hapalips 233
 micens, Amyduvea 226
 Microcladoxena 230, 233
 Microlanguria 230
 miles, Tetraphala 240
 minuta, Croatchia 233
 minuta, Crotchia 233
 minuta, Penolanguria 230
 mirabilis, Chinophagus 230
 mirificus, Congodastus 227
 monticola, Languria 226
 moucheti, Promecolanguria 239
 mouhoti, Languriosoma 227
 mozambique, Promecolanguria 239
 mozardi, Languria 225, 228
 mucronata, Labidolanguria 228
 muhoti, Languriosoma 227
 Najadaceae 234
 natalensis, Slipinskiella 239
 Neanadastus 228
 neglectus, Haplophorus 232
 Nematoda 232
 Neocladoxena 228

- Neolanguria 226
nigricollis, Slipinskiella 239
nigrimana, Slipinskiella 239
nigrita, Promecolanguria 239
nigroapicalis, Slipinskiella 239
nimbana, Slipinskiella 239
nodifera, Stengita 231
Nomotus 228
nubila, Slipinskiella 239
nyassae, Languria 229
nyassae, Promecolanguria 239
obscurus, Cathartocryptus 231
olivescens, Telmatophilus 233
olseni, Promecolanguria 239
omeica, Tetraphala 240
opaca, Tetralanguria 227
orientalis, Promecolanguria 239
ornata, Promecolanguria 239
 Ortholanguria 228
 Ortholanguroides 228
 Othniocryptus 232
ovalis, Empocryptus 231
 Oxylanguria 228
 Pachylanguria 228, 229
 Paederolanguria 229
 Paederus 225
paivae, Languria 228
paivai, Languria 229
paivai, Pachylanguria 228
pallens, Crowsonguptus 240
 Paphezia 224, 234
 Parachladoxena 230
 Paracladoxena 230
parallelia, Tetraphala 240
parallelus, Pseudhenoticus 231
parvulus, Anadastus 225
 Paulianus 229
pecki, Brachypterosa 230
 Pediaphloeus 233
 Penolanguria 230
 Pentalanguria 229
 Pentelanguria 229
 Perilanguria 226
peruviana, Thallisella 230
 Pharaxanota 232
 Pharaxonata 232
 Pharaxonota 232
 Pharaxonotha 223, 225, 232, 233
 Pharaxonothinae 232
 Pharaxonothini 223, 224
 Pharoxonotha 233
 Philophlaeus 231
 Philophloeus 231
 Phytophaga 232
piecea, Promecolanguria 239
pilosa, Slipinskiella 239
 Planismus 232
 Platoberus 223, 230
 Platycladoxena 230, 233
plutonus, Nomotus 228
 Pristoscelis 233
prolixus, Xenoscelis 233
 Promecolanguria 229, 239
provocatrix, Chirolanguria 229
 Pseudhapalips 234
 Pseudhenoticus 231
 Pseudohapalips 234
 Pseudohenoticus 231
pseudosulcicollis, Slipinskiella 239
pubescens, Promecolanguria 239
pulchella, Slipinskiella 239
pulchellus, Tomarus 231, 232
pulcher, Rhopalocryptus 233
punctatus, Tomarops 231
quadriguttata, Stenodina 234
raffrayi, Promecolanguria 239
refulgens, Languria 227
reichii, Compsolanguria 227
reichii, Goniolanguria 227
 Rhopalocryptus 233
ritsemae, Trapezidistes 229
ritsemai, Trapezidistes 229
robustus, Macrophagus 232
rubrocephala, Slipinskiella 239
ruficollis, Cosmolanguria 227
ruficollis, Languria 228
rufipes, Acropteron 234
rufipes, Acropteryx 234
rufipes, Cladoxena 230
rufocephala, Slipinskiella 239
rufocincta, Slipinskiella 239
saegeri, Promecolanguria 239
saegeri, Slipinskiella 239
sauteri, Tetralanguroides 229
sauteri, Tetraphala 240
schoemakeri, Promecolanguria 239
semiotina, Trapezidiera 227
sericea, Promecolanguria 239
sericea, Setaria 232
senicea, Setinide 224
 Setarella 232
Setaria 224, 232
Setariini 224, 232
Setariola 222, 224, 232
Setariolinae 222, 224, 225, 232
setosa, Glysonotha 234
setosa, Glysonotha 234
similis, Promecolanguria 239
simplex, Tetraphala 240
 Sinolanguria 229
 Slipinskiella 229
solida, Promecolanguria 239
somalica, Slipinskiella 239
spiegazzinii, Hapalips 230
splendens, Languria 229
 Staphylinidae 225
Stengita 231
Stenodastus 226
Stenodina 224, 233, 234
 Stenolanguria 229
subimpressa, Ganluria 227
sulcicollis, Slipinskiella 239
taprobanae, Loberina 233
tasmanicus, Cathartocryptus 240
 Telmatophilidae 222
Telmatophilinae 222, 223
Telmatophilus 222
Telmatoscius 234
tenebrioides, Xenocryptus 233
 Tenebrionidae 234
 tenuicornis, Epilanguria 227
teres, Compsolanguria 227
 Teretilanguria 229
terminalis, Slipinskiella 239
testacea, Fitoa 233
 Tetralanguria 229
Tetralanguroides 229
 Tetramera 222
 Tetraphala 229
 Thalasiella 230
 Thalassia 234
 Thalisella 230
 Thallisella 223, 230
Thallisellini 223, 230
Thalliselloides 233
thoracica, Languria 228
tienmuensis, Tetraphala 240
Tomarops 231, 232
Tomarinae 222, 223, 224, 225, 231
Toramus 223, 225, 231
transversus, Thallis 233
 Trapezidera 229
 Trapezidistes 229
traubi, Loberopsyllus 232
tricolor, Clerus 227
tricolor, Stenolanguria 229
trifoliata, Languria 230
trifoliata, Paracladoxena 230
triphyloides, Hemoticus 232
 Triplacinae 223
Tritominae 223
trogositoides, Slipinskiella 239
 Truquiella 234
tuberculata, Anisoderomorpha 226
tumidicollis, Tetraphala 240
turneri, Promecolanguria 239
vagabunda, Crotchia 230
variegatus, Othniocryptus 232
variventris, Tetraphala 240
vassei, Slipinskiella 239
 Vermes 232
verschureni, Slipinskiella 239
viator, Doubledaya 227
vilhenai, Promecolanguria 239
viridipennis, Thalassia 234
vittatus, Langurites 228
vitticollis, Langurites 228
wittei, Slipinskiella 239
 Xenocryptus 223, 233
xenopus, Malleolanguria 228
Xenoscelinae 222, 223, 224, 232
Xenoscelini 223, 232
Xenoscelinini 224, 225, 231
Xenoscelinus 224, 231
Xenoscelis 223, 232, 233
Xenosceloides 233
Xylariaceae 225
zanzibarica, Promecolanguria 239
Zavaljus 233
zumpti, Promecolanguria 239